Guerrillas in the [Urban] Midst: Developing and Using Creative Research Methods - Guerrilla Research Tactics

Glenda Amayo Caldwell

Lindy Osborne

Dr. Inger Mewburn

Dr. Philip Crowther

ABSTRACT
This paper explores what we are calling "Guerrilla Research Tactics" (GRT): research methods that exploit emerging mobile and cloud based digital technologies. We examine some case studies in the use of this technology to generate research data directly from the physical fabric and the people of the city. We argue that GRT is a new and novel way of engaging public participation in urban, place based research because it facilitates the co-creation of knowledge, with city inhabitants, 'on the fly'. This paper discusses the potential of these new research techniques and what they have to offer researchers operating in the creative disciplines and beyond. This work builds on and extends Gauntlett's "new creative methods" (2007) and contributes to the existing body of literature addressing creative and interactive approaches to data collection.

KEYWORDS guerrilla research tactics, GRT, creative research, participatory action research, design interventions

Introduction

Mobile and cloud based digital technologies have existed for some years, but we are only just beginning to exploit the potentials of this technology for social and creative research. Smart phones and social media platforms, the so called 'web 2.0' technologies, allow researchers to collect data directly from the physical fabric and the people of the city. In this paper we explore research methods which use mobile technologies but draw on the 'guerrilla' movement, a style or attitude to making interventions in urban spaces (guerrilla gardening being one such example). These Guerrilla Research Tactics (henceforth GRT) can be situated within a heritage of activism; providing researchers and research participants with the opportunity to simultaneously collect data and take action about the spaces they live and work in. Guerrilla Activism uses unexpected, unconventional approaches in tandem with interactivity to produce unique and thought provoking outcomes, usually with a political agenda in mind. The techniques of guerrilla activism have been adapted to many different domains including marketing, communication, gardening, craftivism, theatre, poetry, and art. We contend that GRT fits within this tradition and can be applied to a range of research projects within various academic disciplines, including community consultation processes in urban design.

One of the key aims of the work discussed in this paper was to develop a Guerrilla Research Tactics tool kit that could, potentially, be transferred to other GRT research projects. This GRT tool kit includes a range of digital and analogue design interventions, which were designed and tested by design students. We offer these new

Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

techniques to researchers operating in the creative disciplines as a way to combine design and social research, building on and extending Gauntlett's "new creative methods" (2007). Rather than interviewing participants, Guantlett asks participants to make Lego constructions, which act as conversation starters. He argues this is a research approach utilising abduction where the researcher proposes an explanation based on observations, rather than induction or deduction. Through making, Gauntlett argues, research participants are engaged as 'co-creators' of knowledge, rather than being passive subjects, who are examined by the researcher.

Our GRT kit extended on Gauntlett's work by including an activist dimension inspired by 'craftivism' to social research in urban environments. Sarah Corbett and Sarah Housley (2011) define Craftivism as the combination of craft and activism, used together to raise awareness of human rights issues. Crafts, such as cross-stitching and knitting, are used by craftivist practitioners as tools to spread political messages. While activism remains the core goal of Craftivist projects, Corbett and Housley argue, the Craftivist Collective uses a central website, which facilitates the organisation of projects and people, across the world. The website collects images and information about the projects, in order to promote the global effect of the collective efforts. The Craftivist Collective also uses a range of online social media tools including blogs, Twitter, and Facebook, to promote Craftivism to a wide range of people. The combination of the crafted object, with the integrated use of online technology to attract people's attention was fundamental to the approach employed by our students.

The 'guerrilla' idea has been explored by other academics, but not, as far as we can ascertain, in creative research disciplines. Wear (2007) adapts Guerrilla Marketing, to research within small legal practices or sole legal practitioners. Wear uses a range and combination of research tools, and emphasises the importance of staying creative when conducting law research in practice. Similarly, Macke (2005) draws parallels between Guerrilla Marketing and the need for using guerrilla tactics, when librarians serve undergraduate students. Undergraduate students want instant, easily accessible answers, while avoiding the full potential of the range of resources that the library has to offer (Macke, 2005). Librarians understand that both understandable and interesting information must be provided to students. Macke (2005) believes that there is a lot that can be learned and adapted from Guerrilla Marketing, including "rapid-fire" and "multiple approaches". Macke argues that "...guerrilla tactics tend to be most useful and effective when (one has a) small, somewhat invisible force confronting a large one," (2005: 587). She documents a number of "arrows from the librarian arsenal" which could be considered useful, including: "reach students in unusual places; small bites work better than big chunks; strike the heart of the matter; tackle the terminology; embrace empathy; encourage curiosity; (and) use simple service techniques that make them feel welcome, and capable".

Our approach to teaching Masters of Architecture and Masters of Urban Design students aligns with Macke's argument. By employing a range of interactive, creative, and engaging research approaches, we facilitated the creation of an entertaining experience for everyone associated with the individual research projects. What interested us, as educators and researchers, was the intersection we saw between creative design thinking, current web 2.0 applications and the 'hacking' of traditional social science methods to create what we contend is a new approach to research. In this paper we discuss some techniques the students developed in our case studies against the background of previous research in qualitative methods. We argue that

Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

these techniques can be understood as another development in the guerrilla movement and explore what potential they might hold for other researchers in design or social research. Based on a mixed methods qualitative approach we reveal the benefits of using GRT within social research as seen by our students. The responses are gathered around four themes; *speed and simplicity of use*, *diverse range of rich responses*, *engaging research students,* and e*ngaging research participants.* The aim of this paper, in the context of this broader project, was to take the 'guerrilla' label seriously and spread the word about these methods in such a way as to enable other researchers to appropriate them, guerrilla style, for themselves.

Methodology

The GRT we outline in this paper were created and developed in collaboration with two groups of Masters by coursework students at Queensland University of Technology (a medium sized public university in Australia), who were required to undertake a compulsory research subject, as a part of their core course curriculum. One cohort included five Masters of Architecture students who were required to do a year long research project, while the second cohort included 20 Masters of Design (Urban Design) students, who were required to do a semester long research project. The Masters of Architecture students were examining the impact of spatial conditions on the use of urban spaces or learning environments. These kinds of urban informatics are generated by translating digital networks into tangible information (Foth, 2009; Foth et al., 2011). Urban informatics can be used to examine the complex infrastructural layers of urban environments including communication networks, transportation networks, information technology, building complexes, and urban inhabitants (Foth, 2009; Foth et al., 2011). The use of urban informatics allows researchers to gain deep insights into how cities function (Foth, 2009; Foth et al., 2011). In this study, urban design students successfully combined GRT with urban informatics to engage with local communities, and obtain empirical data informing their research projects.

Typically students within these creative disciplines, presented with these kinds of projects, view research as a taxing and boring process that distracts them from their studio design focus; the more creative part of the overall task. Students can also face challenges engaging and acquiring sufficient data from their intended participant groups. We decided to take an active learning approach to this problem in line with the critical mass of research which systematically points to the success of, and student preferences to engage in, active learning (Barr and Tagg, 1995; Bonwell and Eison, 1991; Jamieson et al., 2000). Active learning simply requires students to be actively involved in their learning while engaging in higher-order thinking tasks such as analysis, synthesis, and evaluation (Osborne et al., 2012). Accordingly we encouraged students to design their own research tools, hoping that they would come up with creative, fun, and appealing methods inspired by participatory action research (Kindon, 2008) and unobtrusive research methods (Kellehear, 1993).

Usually our students found it difficult to obtain sufficient engagement and data from participants, solely using traditional social research methods such as interviews, focus groups, or paper surveys. In an effort to counter this problem of data collection, student participants were instead asked to identify particular issues relevant to their area of study and develop design interventions, in real spaces, as a way to interact with the community and the problems they faced. The research team (Osborne and Caldwell) worked with the students to develop context specific research methods inside these design interventions, helping students to conduct a series of experiments.

Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

Through regular discussions, sharing of ideas and mutual agreement with the architecture students, the concept of GRT, including prospective methods and tools, was developed. The Urban Design students tested the methods and tools developed in these discussions. This second group was encouraged to build upon the initial GRT concepts, using specific urban interventions to explore their research questions. These students had previously been introduced to Urban Informatics and were encouraged to combine web 2.0 technologies with their research methods. A similar approach of discussion and sharing was promoted within the second cohort of students.

Overall the two cohorts developed a series of analogue, online digital, and hybrid (mixture of analogue and digital) tools to conduct their research. The GRT used by our students were designed and carefully situated in a particular environment, to capture the interest of potential research participants. Methods ranged from simple analogue interventions to bespoke physical artefacts, which contained an embedded digital link to a live, interactive data collecting resource, such as an online poll or survey. These artefacts were purposefully placed in environments where the researcher anticipated an encounter and response from the potential research participant. The choice of design and placement of artefacts was specific and intentional. The results for the individual students were varied, and some were more successful than others. To evaluate the success of GRT approach, the research team conducted a process of mixed method qualitative research to investigate the initial research activities and techniques of the students. The mixed method included a focus group, an online survey, a situated paper-based design intervention, and participant observation. This data was subjected to a simple content analysis. The next section describes the GRT tool kit and the results of the meta-findings from the evaluation of the students.

The GRT Toolkit

Initially, a few proposed tools were introduced to students, including an online poll, a digital survey, a rich media blog, a situated paper-based discussion board (Parra Agudelo et al., 2013), and a digital screen allowing a discussion platform through texts or tweets (Schroeter et al., 2012: Schroeter, 2012). Through facilitated brainstorming and development, the students and research team compiled a list of 24 proposed digital and analogue tools to utilise in their research approach. We do not have space in this paper to discuss all the tools, so confine ourselves here to a short discussion of the more successful ones.

Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

Figure 1: Situated paper-based design intervention. Photo: Louise Barbour

*Analogue Tool: Situated Paper-Based Design Interventions***.** An exclusively analogue GRT tool named 'Print + Talk = Love', which is described as a situated paper-based design intervention, purposefully attempts to enhance social interaction and participation in urban public places (Parra Agudelo et al., 2013). The intervention is completely paper-based composed of a large piece of corrugated cardboard with pieces of paper pinned to it and colored pens attached by strings to it. The pieces of paper have questions on them provoking participants to write an answer and contribute to the overall discussion (Parra Agudelo et al., 2013). 'Print + Talk = Love' was presented to students as a way of acquiring information in urban environments from local communities. Students were encouraged to develop their own versions of this tool such as in figure 1, to continue to investigate the effectiveness of situated paper-based design interventions, as a GRT tool. Several of the students adapted this tool to suit their research enquiry. They found it to be useful when engaging with communities who were normally reluctant to participate in traditional qualitative research, including answering surveys or participating in interviews. The paper-based design interventions provided participants with the opportunity to interact with it when was it was convenient with them and without the researcher present.

One of the students remarked that she had used a situated paper-based design intervention: *"…with prompt questions asking participants to use in their own time… (she) was having difficulty getting participants to participate in a focus group so used this method instead."- L2.* Another student stated that she needed: "*…more in-depth response from people, so (she) created a board (with) puzzle pieces… the puzzle of collaboration… there were multiple colors… that was part of the intriguing part about it… it was fun, it was interactive, it was colorful and it was something different…" - J1.* Through her own creative adaptation of the situated paper-based design intervention, this student exploited the use of fun and color to attract participants. The concept of piecing a puzzle together encouraged users to attach their response to the board and contribute their ideas to those of others.

Students recognised that the physical and tangible quality of paper was attractive to users and that the process of contributing answers to the situated paper-based design intervention was both simple and effective. *"I think the physical media of paper or Post-it (notes) makes it so much more spontaneous and easy to participate,"- A1. "…it's definitely the type of thing that people… respond well to and they're… intrigued as to what it is and they want to go up and look at it," – L1.*

Digital Tool: Online Surveys and Polls. We explored readily available online survey and polling tools such as Survey Monkey [http://www.surveymonkey.com/] or Poll Everywhere [http://www.polleverywhere.com/]. These tools, which are available at no cost to researchers, have online platforms that can easily be integrated into websites. Participants can access these tools through their mobile devices or computers, and respond anonymously.

SurveyMonkey is a survey tool that is digitally accessible, anywhere, anytime. It accommodates a range of question types, including multiple choice or open answer questions, allowing researchers to tailor surveys to particular participants. One of the major limitations to SurveyMonkey and similar online survey tools, is their inability to integrate into and engage with the general public. An additional marketing campaign, therefore, must be employed to attract participants to the survey. Poll

Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

Everywhere creates a real-time graph, which displays participant responses to a singular question. Participants can submit their answers via the website or by sending a text message or a tweet. This tool is particularly useful when the researcher has one key research question and the ability to display the live graph through an urban screen.

When asked to evaluate the use of these polling tools, a student said: *"The instant display of results, using an urban screen with connection to the internet, was useful for attracting and maintaining interest around the urban screen"- TB*. This student is referring to the dynamic real-time nature of Poll Everywhere and how it assisted in attracting participants. Students were, however, concerned that the instant and visual nature of the responses would conflict with the need to maintain anonymity and therefore affect the quality of answers from participants.

Digital Tool: Multimedia Photo Blogs. Another digital tool utilised by students, was tumblr. [http://www.tumblr.com/], a blogging website. This website allowed participants to contribute their own multimedia content such as photos, alongside additional written comments. In addition to this, Instagram [http://instagram.com/], flickr [http://www.flickr.com/], and Twitter [https://twitter.com/] were used to encourage participation from multiple sources, in an attempt to acquire digital images and written comments from people within urban environments. A Twitter #hashtag was used to filter and consolidate the submitted images for the research project. The submission of photos allowed a unique opportunity for participants to visually capture particular events or environments that cannot be verbally captured. Students found that it was important to have: *"...posters located over the entire study area to remind people to participate and provide a reference to the email address and QR code for submissions," - TB*. This student added that the study could have been further improved by: *" ...distributing flyers so the users can take the submission information to the desired location of where they will be submitting the photo," – TB*.

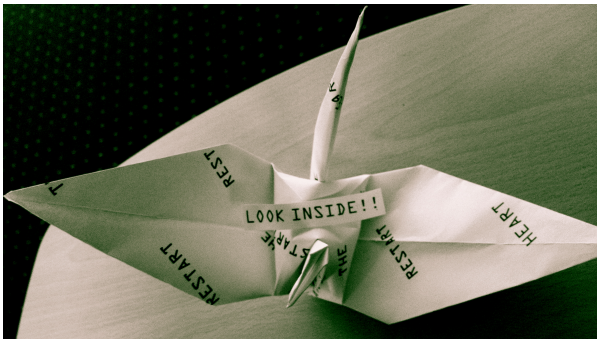

Figure 2: Paper crane with QR code inside. Photo: Authors

Hybrid Tools: Physical Artefacts, Stickers and Posters. The most successful GRT approaches included a combination of different methods to attract and interact with a wide range of participants. The combinations varied and often included a central website, blog or Facebook [https://www.facebook.com/] page to compile all digital information in one central location. From this central website, links to online surveys or polls were hosted. Many students created a poster or flyer to promote their research project and distribute their website links through the use of QR codes. Students were encouraged to employ their creative skills when creating their artefacts. One student placed the QR code inside folded paper cranes (Figure 2). The paper cranes were

Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

distributed in a strategic manner, to maximise the attraction of potential research participants.

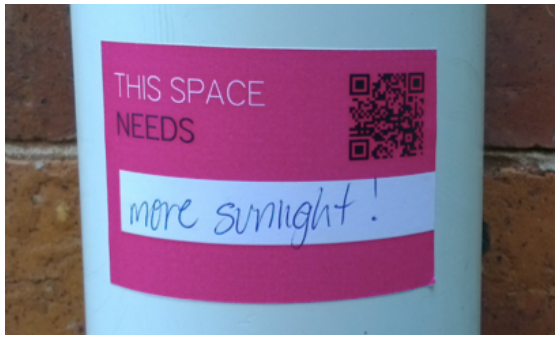

Figure 3: Pink stickers placed in urban environments. Photo: Leonardo Parra Agudelo

Figure 3 illustrates an example of a combined GRT approach, employing colorful stickers with a question and associated QR code. The sticker allowed a space for participants to write their response to the question instead of, or as well as, scanning the QR code. The QR code linked the participant to a central online platform, with additional information about the research project. The stickers were distributed in specific urban areas to raise awareness of urban qualities.

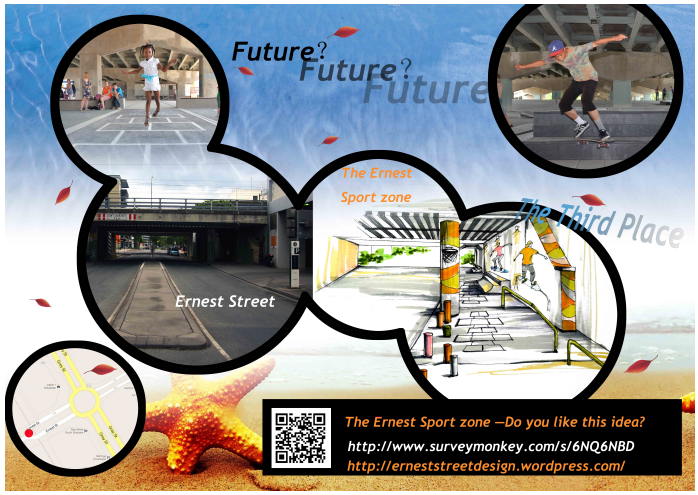

Figure 4: Poster placed in urban environments. Photo: Team A

A group of Masters of Urban Design students created posters, an example of which is shown in Figure 4. These posters combined photographs, hand drawn vignettes, website addresses and QR codes to promote the research projects and associated surveys. The hand drawn vignettes were colorful and playful, and these assisted in attracting their attention of passersby. This particular group also employed a hybrid approach called the Mural Wall which was a combination of a situated paper-based design intervention with digital links via the use of QR codes, to a central website. This group reflected on the success of their research approach and how the combination of several different tools contributed to the engagement of users: *"...a variety of media can successfully engage the community, particularly social networks, QR codes, and posters,"- TA.*

Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

The Important Role of Social Media in GRT. Students believed that social media played a critical role in promoting their GRT research tools to the broader urban community. The social media and networks that featured the most, were Facebook, followed by Twitter. One of the Masters of Urban Design student groups included a survey question, asking participants how they found the survey. Their results indicated that: *"Social network scored 58.3 percent of the responses, whilst the poster and email did not register a response. QR code was the second highest rating, whilst website, flyer…all scored the same amount." – TA*. Another team of students concluded that:*"…Facebook was the most successful form of new media. This can be attributed to its wide social acceptance and ease of use,"– TC.*

Benefits of GRT

We were interested in what the students thought overall of the methods and their benefits or drawbacks. Students gave a variety of responses, which clustered around four key themes: *speed and simplicity of use*, *diverse range of rich responses*, *engaging research students,* and e*ngaging research participants.*

Speed and Simplicity of Use. The majority of the students referred to the relative speed and simplicity of obtaining initial responses to their research questions. One student referred to GRT as, *"…an informal method…you have this idea and… throw it out there and see what happens. It's exciting… you could have complicated guerrilla research or something that's really simple and quick…there's many variations possible,"- S1*. Another student described GRT as, *"Fast, unconventional, grubby question/response methods like: chalkboard walls asking what people like or don't like about their area, (or) origami paper flyers directing people to questionnaires,"- S2.*

Diverse Range of Rich Responses. Students discussed the ease with which they were able to gather a range of responses when using GRT, *"…people are excited about it and want to see what's going on… you () get a broader range of information and a lot more people involved and willing to… give you information," – S3.*

One student explained how information gathered using GRT became a central part of her research, as it provided much richer data than that which she had originally collected using traditional methods, *"...it was meant to be at the end to… (to) back up what I'd found originally (but) it actually changed my paper and my paper became completely centred on the information that I got from guerrilla research…. (it) showed me… more interesting… and more relevant information, that I'd missed… at the beginning," – S4.* Another student agreed with this, *"Originally I thought Guerrilla Tactics would only supplement my research but after conducting a form of it, (I) found that the data was very rich with new ideas, and (that it) would help drive the research direction," – S5.*

Another student acknowledged that GRT uses an interactive approach, which provides a range of responses from respondents, *"It allows for a more interactive approach to research. It relies on a certain level on intrigue from the participant to respond. It also may gather a wider variety of responses as it engages participants in a different way to traditional methods,"- S6.* This student suggested that the answers collected were unexpected and that they provided a richer form of data, *"…more unexpected answers… the user has more freedom of thought and (GRT) can produce a better depth of responses," – S7.*

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Engaging Research Students. Students frequently referred to using GRT as a fun and enjoyable way to conduct research. One of the students described it as fun and experimental,*"…it was fun for me to do something out of the box that wasn't just writing a questionnaire and waiting for responses to come in. It was… an experiment… to see what would happen," – S8.* Another student described GRT as fun, unstructured and spontaneous, "*…a spontaneous form of research… more unstructured… it's the fun and spontaneous way of doing research," – S9.*

Engaging Research Participants. Employing unexpected and interactive methods for engaging research participants, contributed to the success of GRT. In addition to this, elements of creativity, fun, and meaning attracted respondents to GRT. One student described the significance of color in her design intervention, to attract users, *"…there were multiple colors… that was part of the intrigu(e)… it was fun, it was interactive, it was colorful and it was something different," – S10.* Color was nominated by another student, as a simple but creative way to engage users, *"…there was quite a lot of color… when you use simple bold words people… want to know what you're doing and you're sparking something that's of interest to them and it's really obvious… they can… interact with it, I think that's what's attractive about it," – S11.*

Students also discussed the provision of spontaneous and unexpected interventions, as a method to engage participants, *"…it's spontaneous...(it) has that element of being unexpected… you're in an everyday environment and suddenly there is something new there…. you're not expecting to see…a questionnaire or… a QR code… (it's) unexpected and exciting,"- S12.*

Their use of creative skills and their ability to produce something that is visually appealing, was nominated by students as an important factor to enhance interaction with participants, *"…(GRT) has to be visually appealing… the participants… have intrigue and a bit of fun while doing it. It is quick for both the research team to see results and (for) the participants to do," – S13.*

When students were asked how they might react to GRT as a participant, one student responded by saying, *"…if I were 'bombed' by spontaneous guerrilla research tactics… I would only respond if I felt I had something significant to offer on the topic and only if it was fun and quick," – S14.* This response indicates the student's perception that not only does GRT have to be appealing to users, but it must also be significant and meaningful. This finding is further supported by one of the questions that a group of Masters of Urban Design students asked their participants. They concluded that 91.7 percent of participants would provide additional responses, if they could see how their opinion would change the urban area in question for the better. Participants indicated that they were motivated by creating change, *"…people were willing to participate in additional community consultation if they could see their opinion was making a difference," – TD.*

In the next section we will discuss how these GRT fit into a heritage of activism and what this might have to offer researchers interested in taking up these tools.

Discussion

There has been growing interest in the participatory collection of data and creation of knowledge in the social sciences. Quantitative research is inductive - it speculates about the future based on what happened in the past. Qualitative research however, is deductive - it proposes a "reading" of what is observed, based on available data.

Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

Gauntlett (2007) argues for a third approach, based on the work of 19th century philosopher CS Pierce, which he calls "abductive reasoning": "The idea of abduction is that the scientist observes a number of cases and proposes a causal explanation for what is observed" (2007: 45-46). Gauntlett gives an example of a typical abductive statement: "We can note [this characteristic] of [this thing] and [that characteristic] of [that thing], and this is because of [explanation X]." Gauntlett argues that this demonstrates the possibility that explanation X is useful to other cases, but it doesn't explicitly claim them.

Likewise GRT allows abductive reasoning to make modest, but useful knowledge claims. There is no 'true' or 'false' knowledge gained through GRT, but knowledge that is a 'best fit' explanation for the given situation, and which may have application in other, similar cases. GRT is an extension of Gauntlett's knowledge co-creation, where participants engage with artefacts during their lived experience of the physical environment but it also owes a debt to participatory action research. Participatory Action Research (PAR) is defined by Kindon et al. (2008) as a research method that supports the collaboration of researchers and participants, in examining a problem or situation together. The aim of PAR is to empower ordinary people in and through the research, creating a socially owned research process (Kindon et al., 2008). The process of PAR is cyclical and context specific. The methods used in PAR may include traditional social science methods like semi-structured interviews and focus groups, or it may also include a range of innovative research methods such as video, performances, drawing, or diagramming (Kindon et al, 2008). The flexible and open PAR methods support the notion of research that is dedicated to the needs and issues related to the participants. Kindon et al. (2008) discuss the importance of space and place within political practice participation. PAR approaches commonly address local concerns and agenda regarding immediate social and natural environments within which they are located, and particularly ground up processes. The difference between Action Research and Participatory Action Research is that PAR relies on the politics of the research process, while Action Research does not depend on the involvement of participants, to engage directly in the research process (Kindon et al., 2008). Fundamentally PAR focuses on the action required to create change, in order to address the political issue or problem of the participants.

The research challenge we set for our students differed from typical social research, which identifies participants in advance and collects data by talking with or writing to them (Kellehear, 1993). There is, however, a set of social science methods that are similar to this approach which are commonly called 'Unobtrusive Methods' (Kellehear, 1993). These methods include the examination of written or audio-visual records, the use and wear and tear of physical objects, and simple observations (Kellehear, 1993). Kellehear (1993) argues that Unobtrusive Research Methods studies *actual* human behaviour, are easily accessible, have low cost, and are non disruptive. Similarly our GRT collects data through interaction with physical artefacts; the difference between this and what Kellehear terms "unobtrusive methods" is the use of design interventions and online tools. However the implicit political agenda, has more in common with the Guerrilla Movement, which has characterised late 20th and early 21st century activism.

Guerrilla Warriors

In her article "Confessions of a Guerrilla Technologist," Susan M. Zvacek defines the Guerrilla Movement as being concerned with creating change as a continuous evolution (Zvacek, 2001). According to Zvacek the movement is promoted by

Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

"Guerrilla Warriors" who seek to instigate change for the better. She characterises guerrilla warriors as having an aversion to direct battle; the ability to adapt to change and new situations quickly, knowledge about the context within which they are operating, an awareness of external sponsors and the ability to maintain high spirits and belief in their cause. Zvacek states that, "by definition, guerrillas are fighters in a position of weakness against a more powerful enemy," (2001: 44). Zvacek's characterisation is interesting because it proposes the Guerrilla movement is primarily an attitude, yet Guerrilla techniques have been appropriated by various other actors and enrolled in different causes and situations far different from political activism.

In response to a competitive and overcrowded marketplace, some businesses employ Guerrilla tactics within their marketing campaigns, by using "unconventional marketing methods to gain conventional results," (Cuadron, 2001). Jay Conrad Levinson established the term Guerrilla Marketing, after publishing a book aimed at small business owners (Cuadron, 2001). In his book, 'The best of Guerrilla Marketing: Guerrilla Marketing Remixed' (1984), Levinson lists a series of statements, which describe what Guerrilla marketing is. These are useful in drawing a parallel to what Guerrilla Tactics are within the context of research. Guerrilla Research can therefore be described as: an experience for the participant; research made fascinating; the art of getting people to participate; and a combination of numerous Research Tactics (Levinson, 2011). Caudron compares the differences between traditional and Guerrilla methods of marketing, where the design of Guerrilla tactics relies on the use of limited resources to get immediate results. This design is stimulated, to utilise a range of different approaches, by creative thinking (Cuadron, 2001). Cuadron argues that "...the best guerrilla marketing campaigns are those that grab people's attention," (2001: 55).

However, guerrilla tactics are most commonly found in the arts. "Guerrilla Girls' Reckoning", a paper written by Chave, examines the Guerrilla Girls movement that began in 1985 in New York City. The anonymous group of female artists called the Guerrilla Girls aimed to expose the unequal representation of women and artists of color within the modern art scene, utilising statistics provided by galleries, museums, exhibitions, and art critics. At this time women were more marginalised in the art world than in many other industries, for example an encouraging 49.2% of bus drivers were reported to be female. The Guerrilla Girls relied mainly on posters with provocative graphics and statistics, which were placed on gallery walls and in other art-related public spaces. They were campaigning for equal representation within the art world. The founders of the Guerrilla Girls were mostly influenced by the 1970's feminist movement, however they also devised new methods to make their claims during the 1980s modern art environment (Chave, 2011). The Guerrilla Girls had to rely on a "new image and a new kind of language to appeal to a younger generation of women" (Chave, 2011: 104). The group maintained anonymity while in public, by wearing gorilla masks and fishnet stockings with high heels. The Guerrilla Girls spread their message by "appropriating the urban landscape (often, if not always in unauthorised ways) with posters, stickers, graffiti, projections, billboards" (Chave, 2011: 106). Their message was realised by 1992, when it became clear that the art world was listening, by starting to consider the diversity of gender and race within art exhibitions. Chave states "the advances came in the form of a deepening and refining of discourses surrounding issues of identity, a development that helped newly entrench gender studies and identity politics within academia" (2011: 111).

Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

The guerrilla girls is one example of the use of Guerrilla Tactics to motivate action regarding social issues in a peaceful way *another is guerrilla gardening which aims* to turn abandoned city spaces into beautiful gardens. Guerrilla Gardeners are armed with shovels, hoes, plants, and watering cans, which are used to plant flowers, vegetables and herbs in unused spaces (Gilsenan, 2011). Key characteristics of Guerrilla Gardeners are the use of quick, surprise attacks on neglected and weed encroached parts of the community (Gilsenan, 2011). Although there is a parallel drawn between Guerrilla Soldiers and Gardeners, Guerrilla Gardening is perceived as a beautiful and peaceful movement, which provides colorful, sometimes edible responses to overgrown and abandoned areas within the places where we live. Where GRT differs from these more traditional applications of guerrilla thinking is the use and generation of ubiquitous, place based urban informatics.

One possible weakness of GRT is the willingness of participants, in the public domain to take part in the activities through fear or embarrassment. This is where "First follower leadership theory" might offer some solutions. Sivers (2010) provides an interesting context within which to review the experiences that the student researchers encountered, when they publicly displayed their situated paper-based design interventions. Respondents started to engage with the placed artefacts, momentum and confidence grew, and so did participation rates. When activated within a learning environment context, high participation rates were quickly reached, as student participants did not want to be viewed as the only non-contributors, in their cohort. In addition to this, participants were not only able to see other answers before committing to their response, but they were also able to respond anonymously. A key factor was the proposition of artefacts that were simple enough for participants to interact with intuitively, and without the need for arduous signage or detailed process explanation. Within a surprisingly short period of time using a GRT approach, the student researchers had collected more data than they had originally anticipated, and in some cases, this completely superseded previous attempts to acquire data using more traditional methods.

Social media played a critical role in the distribution of GRT research project information. The power of social media lies in its ease of accessibility and widespread demographic usage. Social media also played an important role in attracting respondents to participate with the research. Additional important factors, which increased participant engagement, were the use of color and creativity to promote an environment of fun. Fundamental to all of the GRT approaches in an attempt to attract respondent participation, was the call to action; questions focussed on issues that were of importance to the stakeholders. The GRT interventions served the additional purpose of providing participants with a sense of having had contributed to a meaningful cause and therefore, to activate change.

Conclusion

The introduction to and development of GRT with research students is important for two reasons: research pedagogy and engagement in research. Firstly, from a pedagogical perspective, the introduction of GRT created an exciting, live, active learning environment for the research students. Students were required to be creative and to propose new ways of data acquisition that would appeal to and engage their potential research participants; some of whom were their peers, while others were unknown to them and from the general public. Students learnt about the process of experimental research through making, doing and/or enacting, and following this, through observing their participants in turn, in making, doing and/or enacting.

Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

Subsequent to their experimentation with GRT, the research students met with their supervisors on a regular basis, where their successes and failures were shared, discussed and reflected upon, in an informal, collegial learning environment.

Secondly, the principles that the authors used to engage the research students in their learning, were adapted and used in turn by the students, to engage their potential research participants. Research participants actively engaged with GRT artefacts through either doing or observing an activity; they were subsequently required to reflect on the proposition posed to them via the artefact, through dialogue with self or others, thus adopting active learning principles in a research context. The student's conscious understanding of how they learnt and the processes involved in data collection, was strengthened through this aligned approach. This became more and more evident as the semester, and their research projects, progressed. This alignment between active learning pedagogical theory and the collection of research data, is something that the authors hope to better understand through future research in this area.

Students employing GRT as a research method were successful in quickly acquiring rich data from participants, but they were also re-invigorated about their research, at a time when they were beginning to feel demoralised by the lack of participant involvement. The process of creating a tangible intervention, which had a presence in the public urban environment, excited the students. They were able to utilise their creative skills to design and construct an artefact, to attract potential research participants. Either inspired or intrigued by the creative approach taken by the students, participants were drawn to interact with the artefacts and interventions, while appreciating their unique response in relation to those of others. They were cognisant of being co-creators of knowledge, by being given the opportunity to actively respond to critical issues regarding the environments that were being questioned.

Combining creative thinking with digital technologies, GRT has proven to be an effective method of engaging both research students and their research participants. In the same way that Guerrilla Activism has been applied to many other aspects of social life, Guerrilla Research Tactics can be adapted and applied to disciplines outside of either architecture or urban design. The Masters of Urban Design student research discussed in this paper is a good example of how GRT can be successfully applied to urban environments, and thus enriches valuable urban design and planning community consultation processes.

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Note on Contributors
Glenda Caldwell is a Lecturer in Architecture at the School of Design, Creative Industries Faculty, Queensland University of Technology, Brisbane, Australia.

Lindy Osborne is a Registered Architect and a Lecturer in Architecture at the School of Design, Creative Industries Faculty, Queensland University of Technology, Brisbane, Australia.

Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

Dr. Inger Mewburn is the director of research training at the Australian National University, Canberra, Australia. She is the founder and managing editor of The Thesis Whisperer blog.

Dr. Philip Crowther is a Registered Architect and Head of Architecture at the School of Design, Creative Industries Faculty, Queensland University of Technology, Brisbane, Australia.

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Correspondence Address: Glenda Amayo Caldwell, 2 George St. GPO Box 2434 Brisbane, QLD 4001 Australia. E-mail: g.caldwell@qut.edu.au

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